



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,142	04/06/2000	Maoz Betzer Tsilevich	15150	9032

7590 05/07/2003

Nath & Associates PLLC  
1030 15th Street NW  
Sixth Floor  
Washington, DC 20005

EXAMINER
----------

ANTHONY, JOSEPH DAVID

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 05/07/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/544,142

Applicant(s)

Examiner

Group Art Unit

1714

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on 2/21/03
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-25 is/are pending in the application.
- ☐ Of the above claim(s) 1-12, 20, 23, 25 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 13-19, 21-22, 24 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 4
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 1714

### **DETAILED ACTION**

1. Applicant's election with traverse of Group II, claims 13-25 drawn to method of making an endothermic heat shield composition, and applicant's election of wood and its by-products and glass fibers as the filler materials in Paper No. 7 is acknowledged. The claims that read on the elected invention and elected filler species are claims 13-19, 21-22 and 24. The traversal is on the ground(s) that applicant's invention, according to applicant's representative, does not use a binder material, and that such binder material are directly contradict applicant's disclosure. This is not found persuasive because applicant's required filler material, such as cellulose based components, glass fibers and ceramic fibers are all well known binder materials in certain circumstances. The fact that applicant calls such components fillers does not negate the fact that they can function as binders. As such to use binders material, other than those specific disclosed by applicant's disclosure, in a process of making applicant's endothermic heat shield composition is not deemed to contradict applicant's invention.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

2. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The examiner fails to see who defining the filler material as selected

Art Unit: 1714

from the group consisting of organic components and inorganic components and mixtures further limits the nature of the filler material. How can the filler material be anything other than an organic component, and inorganic component or a mixture thereof?

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-19, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips U.S. Patent Number 4,288,338.

---

Phillips teaches static solar storage compositions utilizing the heat of fusion of the compositions. Applicant's claims are deemed to be met when the taught compositions comprising a salt hydrate, such as sodium aluminum sulfate, a nucleating agent, such as borax, and porous

Art Unit: 1714

solid, such as calcium hemihydrate and soluble calcium sulfate anhydride are heated to the melting point of the hydrate salt and then allowed to cool to fuse together, see abstract, column 3, lines 51-62 and the examples especially example II.

Phillips differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's process of melting the hydrate salt prior to adding a filler material, 2) there is no direct teaching (i.e. by way of an example to where applicant's claimed organic fillers are mixed with the hydrate salt, and 3) there is no directly teaching (i.e. by way of an example) to where on 10 % by weight of water is added to the hydrate salt prior to heating.

It is held that applicant's step of adding a filler material to the melted hydrate salt is the functional equivalent to adding the filler material to the non-melted hydrate salt and then heating this mixture to a temperature to melt the hydrate salt. The courts have constantly declared that the order of mixing is not deemed to be critical unless specifically shown by test data. It is held that applicant has not shown any criticality to said specific order of adding. It would also have been obvious to one having ordinary skill in the art to mix organic filler materials with the hydrate salts claimed by applicant by using the background section of the Philips patent, since Philips teaches that it is well known in the art to make endothermic compositions comprising admixtures of cellulose fillers with hydrate salts, see column 2, lines 48 to column 3, line 17. The further addition of 10% by weight water in the claimed process is deemed to be at once envisaged since Phillips directly teaches adding water in his taught process and the quantity of water is deemed to be an obvious designed modification that comes within the broad disclosure of Phillips.

Art Unit: 1714

6. Claims 13-14, 16-17, 19, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill U.S. Patent Number 3,868,346.

Merrill teaches heat resistant/fire retardant protective coating compositions formed by admixing a silicon rubber with hydrated alkali metal borate in amounts sufficient to form vitreous compositions when the borate is heated to its melting temperature and the silicon is thermally decomposed. Applicant's claims are deemed to be met over the examples wherein heating occurs to melt the hydrated alkali metal borate component to form a vitreous composition. Merrill differs from applicant's claimed invention in the following ways: : 1) there is no direct disclosure to applicant's process of melting the hydrate salt prior to adding a filler material., 2) there is no direct teaching (i.e. by way of an example) to where a light weight inorganic highly porous filler material is used in the claim process, and 3) there is no directly teaching (i.e. by way of an example) to where water is added to the hydrate salt prior to heating.

It is held that applicant's step of adding a filler material to the melted hydrate salt is the functional equivalent to adding the filler material to the non-melted hydrate salt and than heating this mixture to a temperature to melt the hydrate salt. The courts have constantly declared that the order of mixing is not deemed to be critical unless specifically shown by test data. It is held that applicant has not show any criticality to said specific order of adding. It would also have been

---

obvious to one having ordinary skill in the art to use a light weight inorganic highly porous filler material in applicant's claimed process since such material, such as silica fillers and aluminum

Art Unit: 1714

oxides are directly disclosed by the patent, see column 3, lines 30-42. The further addition of small amounts of water in the claimed process is deemed to be at once envisaged since such water additions can be used to further hydrate the hydrated salt.

7. Claims 13-16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saeman et al. U.S. Patent Number 4,146,676 or Boardman U.S. Patent Number 4,277,357..

Saeman et al teaches granular calcium hypochlorite coated with a low melting hydrated inorganic salt(s) by spray graining. Applicant's claims are deemed to be met over Examples XVII, XXIV and XXIV-XXVIII wherein an eutectic borate salt hydrate mixtures are melted together. The said melted eutectic mixture is then sprayed onto the granular calcium hypochlorite.

Boardman teaches heat or cold storage compositions utilizing the latent heat of fusion of a salt hydrate continuous phase intimately intermixed with hydrated hydraulic cement. Applicant's claims are deemed to be met over the examples wherein eutectic hydrate salt mixtures are used and are heated to their melting point, see column 5, line 35 to column 6, line 20, and the examples, such as example 1.

Saeman et al and Boardman both differ from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's process of melting the hydrate salt prior to adding a filler material, 2) there is no direct teaching (i.e. by way of an example) to where at least 50% of the hydrated salt is hydrate aluminum sulfate, and 3) there is no direct teaching (i.e. by way of an example) to where water is added to the hydrate salt prior to heating.

Art Unit: 1714

It is held that applicant's step of adding a filler material to the melted hydrate salt is the functional equivalent to adding the filler material to the non-melted hydrate salt and then heating this mixture to a temperature to melt the hydrate salt. The courts have constantly declared that the order of mixing is not deemed to be critical unless specifically shown by test data. It is held that applicant has not show any criticality to said specific order of adding. It would also have been obvious to one having ordinary skill in the art to use at least 50% of hydrate aluminum sulfate as the hydrate salt since hydrate aluminum sulfate is directly suggested by the Saeman patent, see column 18, lines 42-46 and claims 1 and 17-18, and is deemed to come within the broad disclosure of hydrate salts disclosed by the Boardman patent. The further addition of small amounts of water in the claimed process is deemed to be at once envisages since such water additions can be used to further hydrate the hydrated salt. The Boardman patent directly teaches such addition in the examples and claims.

***Prior-Art Cited But Not Applied***

8. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

---

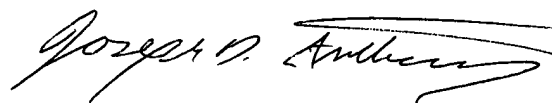
***Examiner Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (703) 308-0446.



Art Unit: 1714

This examiner can normally be reached on Monday through Thursday from 7:35 a.m. to 6:00 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The group (**non-after final**) FAX machine number is (703) 872-9310. The group (**after final**) FAX machine number is (703) 872-9311. Unofficial correspondence transmitted by FAX must be marked "DRAFT". All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0651. The receptionist is located on the 8<sup>th</sup> floor of Crystal Plaza 3 (e.g. CP-3) and will be the welcome point for all visitors to the building.



**Joseph D. Anthony**  
**Primary Patent Examiner**  
**Art Unit 1714**

5/5/03